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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

QURESHI, A

ART UNIT

PAPER NUMBER

2738

AIR MAIL

DATE MAILED:

02/14/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/013,021

Applicant(s)

BURNS et al.

Examiner

Afsar M. Qureshi

Group Art Unit

2738



- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-26 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-12, 14, 20, 21, and 23-26 is/are rejected.
- ☒ Claim(s) 13, 15-19, and 22 is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Objections

1. Claim 20 is objected to because of the following informalities:

Claim 20 is a dependent claim, however, reference to the claim number that it depends on is missing. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engbersen et al. (U.S. 5,271,000).

- Considering claims 1-7, Engbersen et al. (hereinafter *Engbersen*) discloses an apparatus and method for the testing and evaluation of distributed packet switching networks by sending test packets from one or more source nodes through the system to specific destinations that

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comprise a test packet analyzer. The method involves defining paths between the inputs and the outputs of the network (col. 12, lines 66-68), diagnosing errors, passing test packets around the network (in their payload portion) including diagnostic data, nature of failure, possible location in addition to the information normally contained in the control block of a packet, and analyzing (col. 11, lines 40-45 also see figure 10) the packets at the output port of their path of transmission for failure (see col. 4, lines 17-32; col. 10, 25-33 and 42-59). The fault propagation means and fault setup means are used to generate an assumed fault and propagate message throughout the network (col. 10, lines 3-3-19).

The above cited art pertain to fast packet switching which is a typical of ATM network [claim 7].

- considering claim 8, it is well known to one skilled in the art that “packet-switched” systems provide a virtual connection between two points of a network which is established physically only during the transmission time of packets otherwise remains idle.

- Considering claim 9, limitations claiming ‘establishing a virtual connection’ and analyzing the diagnostic data are discussed above in claim 1. Also limitation ‘c’, collecting data for each route through the network, is discussed earlier (see col. 4, lines 22-25).

- Considering 10 and 11, already discussed in claim 3 and 4 above.

- Considering claim 12, sending an acknowledgment back to the originating source is well known to one skilled in field of traffic congestion and fault recovery.

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- considering claim 14, data carried in an information element of a message is already discussed in claim 5 above.

Therefore, it would have been obvious to one skilled in the art, at the time of invention, to utilize the testing and evaluation methods of Engbersen to diagnose faults and analyzing the source of failure incorporating functions of analyzer described by the same. Also utilizing the fault setup and fault propagation techniques of Engbersen in order to propagate message that includes diagnostic data pertaining to each switch and trunk (claims 3-6)

4. Claims 20,21, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engbersen in view of Dobbins et al. (U.S. 5,825,772).

- Considering claim 20, Dobbins et al. (*Dobbins* hereinafter) disclose a distributed connection-oriented services for packet switched data communications networks In determining connections, Dobbins describes a 'threading the needle' algorithm in which the connection is threaded through the switches on the path one switch hop at a time. The path information is listed in a table which may be referred to as hop-by-hop routing table (see col. 4, lines 47-62).

- Considering claim 21, as described above, Dobbins discloses packet switched data communications network comprising plurality of nodes interconnected providing services to the users connected to these nodes. A distributed call routing service is provided wherein if a link on an active path fails, i.e. alternative route (see Abstract and col. 2, lines 16-38). Limitations of 21 (d) and (e) are already discussed in claim 1 above (Engbersen).

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- Claims 23 and 24 are discussed above in claim 12 and claim 5 respectively.

- Considering claim 25, Dobbins discloses a packet switched network as discussed above and an interface message processor but fails to further elaborate the management functions of the processor although functions of a processor is well known to one of ordinary skill in the art.

However, Engbersen discloses a test case generator in a transputer 27 (see figure 12) and states that it is a kind of interface between the test method and the part of the verification system that performs the system evaluation (see col. 25, lines 66 through col. 26, lines 1-9). A transputer acts as a communication node (see col. 25, lines 56-65).

- Claim 26 is already discussed in claim 7. Additionally, Dobbins disclose the same system as discussed in claim 20 above.

Therefore, it would have been obvious to one skilled in the art, at the time of invention, to readily modify the system disclosed by Dobbins by incorporating analyzing techniques for diagnostic purpose and to include functionality of test case generator as described by Engbersen so that it can perform functions associated with Node Management Terminal Interface to analyze the diagnostic data.

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Allowable Subject Matter

5. Claims 13, 15-19 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim et al. (U.S. 5, 974,046) disclose a maintenance method for a subscriber line of a broadband network termination apparatus in an ATM permanent virtual connection switching system where a loopback OAM cell is transmitted to a network when a loopback operation timer becomes time-out. Upon receiving the message the network sends information to the ATMPVC switching system. In turn ATM PVCswitching system stores the information into a management table and reports to the system operator.

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Bergeson et al. (U.S. 5,051,996) disclose a system and method for fault detection for electronic circuits by sending the signal to the input of the circuit under test where inspection logic compares the signal to an expected signal. Data input multiplexer provides identification of the faulty node.

Clark et al. (U.S. 4,881,230) disclose an expert system for detecting and analyzing errors in a communications system in which the system isolates failures to a specific field replaceable unit and provide detailed messages to guide an operator to a solution.

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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Afsar M. Qureshi* whose telephone number is (703) 308-8542. The examiner can normally be reached on Monday through Friday from 8:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Hassan Kizou**, can be reached on (703) 305-4744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

or faxed to: (703) 308-6743, (for formal communications intended for entry)

Or: (703) 308-5403 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Afsar M. Qureshi

February 9, 2000



**ALPUS H. HSU
PRIMARY EXAMINER**